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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/531,922

05/31/2005

Gregg Sunshine

BA9314USPCT

6025

7590

09/25/2006

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EXAMINER

PHAM, HOA Q

ART UNIT

PAPER NUMBER

2877

DATE MAILED: 09/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/531,922

Applicant(s)

SUNSHINE ET AL.

Examiner

Hoa Q. Pham

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _____ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on _____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 April 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The drawings are objected to because the “black boxes” in figures 1 and 7 are not labeled. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

2. The abstract which appears on the page of the PCT Gazette of published international application number WO 2004/051237 A1 will be used as the abstract for this application.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Massen et al (5,524,746) in view of JP-98332567 A (of record).

Regarding claims 1 and 22; Massen et al discloses a method and apparatus for sorting particles comprising a particle feeder (87.1), an inclined path having an upper inlet located adjacent to the exit end of the feeder, a light source (115) and a CCD camera (201), an image analysis unit adapted to detect the color of the particles that is a composition calculator which converts reflected light image signals received from the camera into data indicative of particles types based on at least one property of the particles (figure 8A). Massen et al does not explicitly teach the step of calculating the proportion of at least one particle type based on data from the reflective light images indicative of the at least one differing optical property and/or shape; however, such a feature is well known in the art as taught by JP-98332567 mentioned in the present specification (see page 2 line 32 through page 3, line 2). It would have been obvious to one having ordinary skill in the art at the time the invention was made to replace the calculation step of Massen et al by the step of Japan reference because this is a known method which is known for sorting the particles in a mixture.

Regarding claim 2, see column 8, line 29 of Massen et al for the use of fluorescent lamp.

Regarding claims 3-4, see column 5, lines 1-2 of Massen et al for determining shape and size of the particle.

Regarding claim 5, see figure 8A of Massen et al for the inclination of the path.

Regarding claim 6, figure 8A of Massen et al shows that the camera is perpendicular to the inclined path.

Regarding claim 7, see element B in figure 8A of Massen et al.

Regarding claims 8-13, based on the arrangement of the feeder and the inclination path of Massen et al, it is inherent that less than 10% of the particles on the inclined path are touching another particle in the reflective light images and the non-cohesive particles are non-spheroidal and at least 80% of the particles have a bounce angle of 10 degrees or less.

Regarding claim 14, see figure 8A of Massen et al show a gap between the exit end and the inlet end.

Regarding claim 15, figure 8A of Massen et al discloses a small gap, thus it is inherent that the gap has a length which is equal or less than the shortest dimension of the particles.

Regarding claims 16-20, Massen et al teaches that the particles to be inspected are rice and does not teach that the particles comprise seed or cylindrical in shape; however, it would have been obvious to one having ordinary skill in the art at the time

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the invention was made to use the basic device of Massen et al to inspect any kinds of particles because the device would function in the same manner.

Regarding claim 21, Massen et al teaches the use of air supply; thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the inert gas because they would function in the same manner. A substitution one for another is generally recognized as being within the level of ordinary skill in the art.

Regarding claim 23, see column 8, lines 37-67 for the use of color camera.


5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Following references relate to particle detection apparatus: Satake et al (5,917,927), Uesugi et al (5,129,268), Gordon et al (3,977,526), Schumann (5,309,215), Akutsu (4,661,985), Grannes (5,519,793).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hoa Q. Pham whose telephone number is (571) 272-2426. The examiner can normally be reached on 7:30AM to 6 PM, Monday through Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory J. Toatley, Jr. can be reached on (571) 272-2800 ext. 77. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Hoa Q. Pham
Primary Examiner
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HP
September 16, 2006